

PLATE I.—PANORAMIC SUMMER VIEW OF NIAGARA FALLS FROM CANADIAN SIDE OF GORGE.  
American Falls at left; Horseshoe Falls at right.



PLATE II.—PANORAMIC WINTER VIEW OF NIAGARA FALLS FROM SAME POINT AS IN PLATE I.

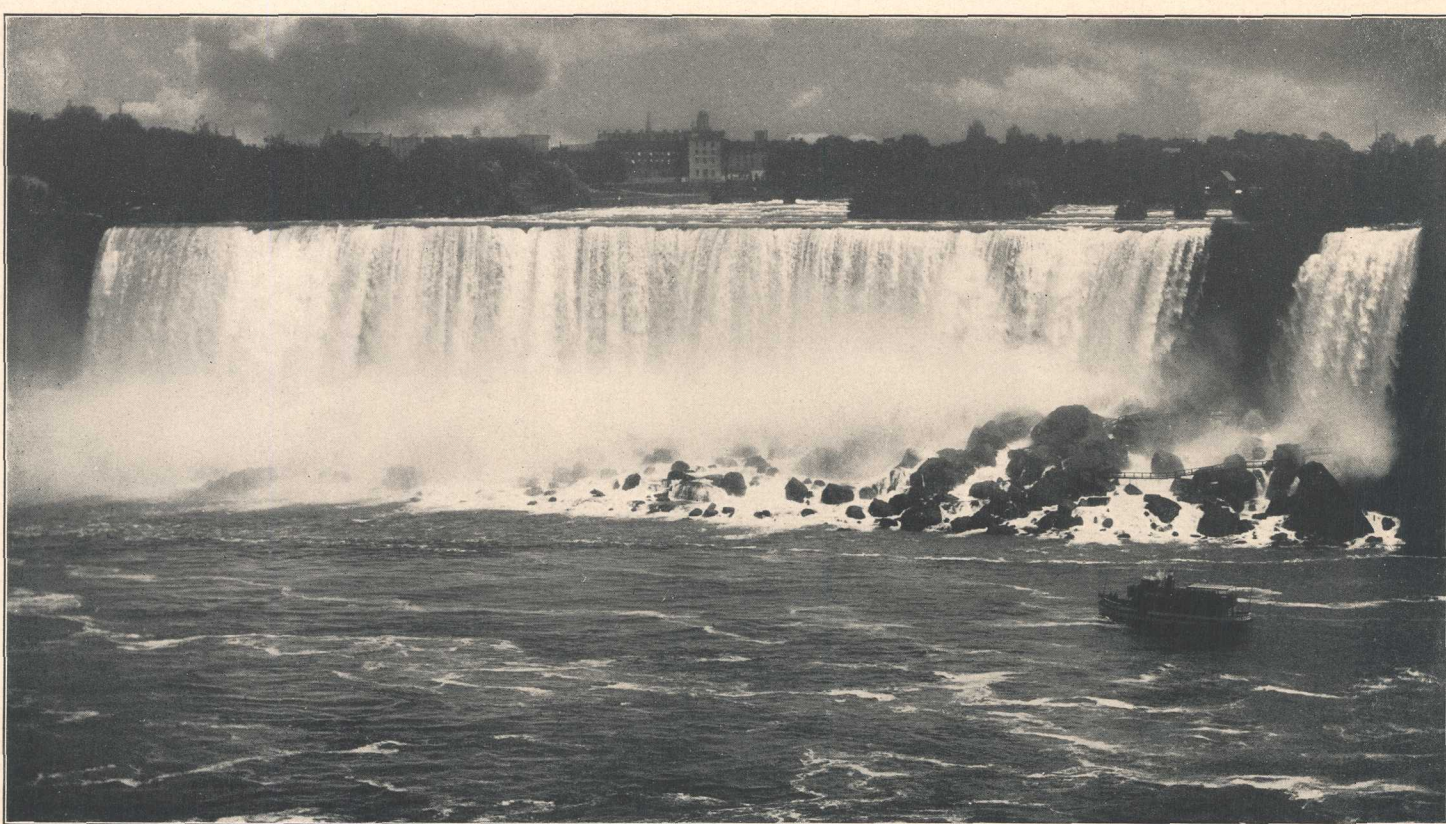


PLATE V.—AMERICAN FALLS FROM BRINK OF GORGE ON CANADIAN SIDE.  
Talus of fallen blocks of Lockport dolomite along entire base. Luna Falls at right, with "Rock of Ages" at its base. Sheet of water thin over entire crest.



PLATE IV.—HORSESHOE FALLS FROM ITS EAST END.  
Goat Island shelf and Terrapin Rock in left foreground; deep water on crest beyond. High drift bluff of old channel of Niagara River in distance.

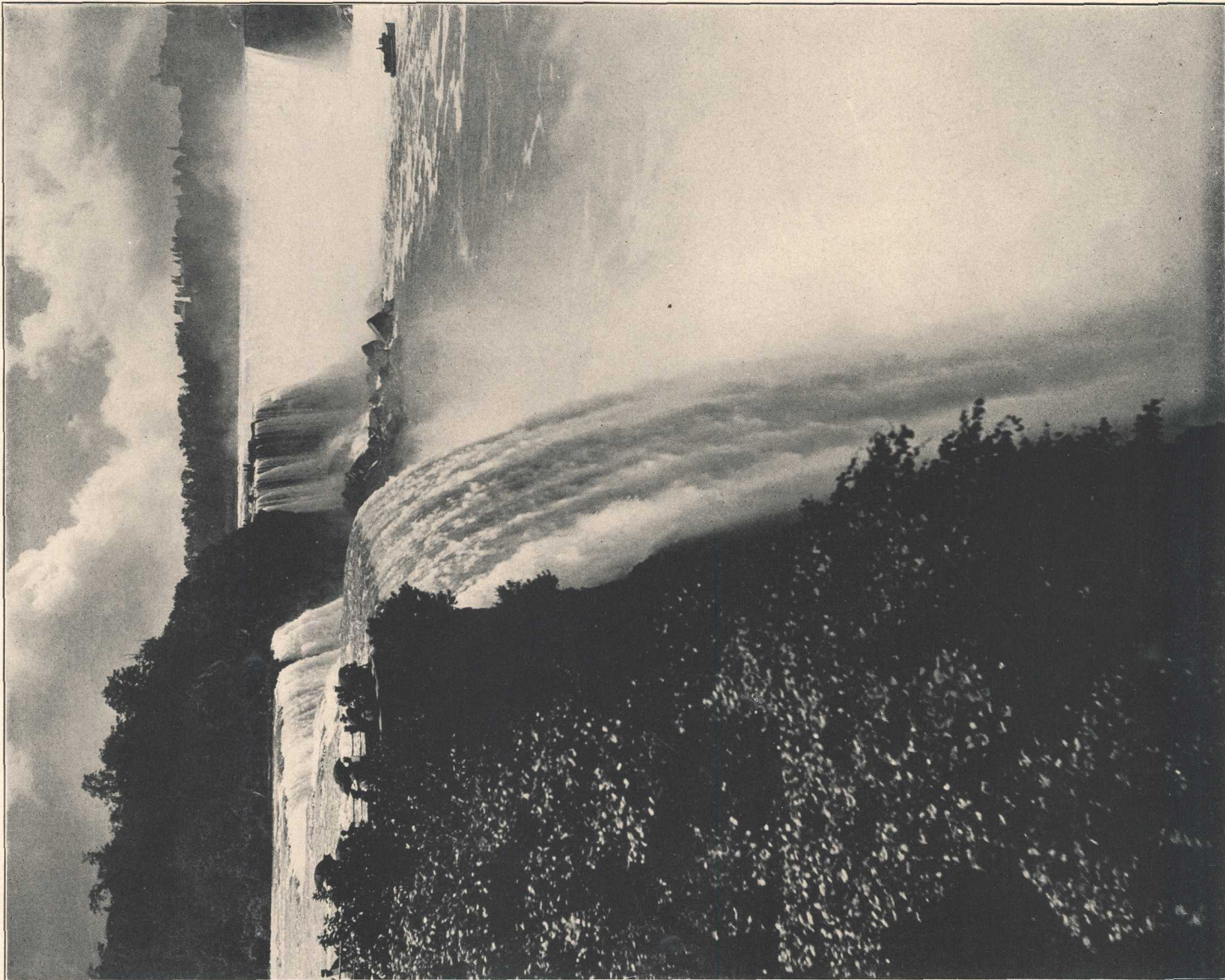


PLATE III.—GENERAL VIEW OF THE FALLS FROM CLIFF NORTH OF PROSPECT POINT. AMERICAN FALLS IN LEFT FOREGROUND; HORSESHOE FALLS IN DISTANCE.  
Note alignment of cliffs, or Goat Island, American Falls, and cliff at Prospect Point. The brink of the nearer part of the falls is a ledge that projects beyond the general cliff line, and the water is deepest at this point.





PLATE VI.—UPPER GREAT GORGE OF NIAGARA RIVER, LOOKING SOUTH FROM WEST END OF CANTILEVER RAILROAD BRIDGE. FALLS AND INTERNATIONAL BRIDGE IN DISTANCE, NEARLY 2 MILES AWAY.  
Note quiet deep water of long pool and ripple around rock in foreground, which shows acceleration of current entering Whirlpool Rapids. Lockport dolomite cliff at top of bank at right.



PLATE VIII.—WHIRLPOOL RAPIDS GORGE, LOOKING NORTH (DOWNSTREAM) FROM NEAR EAST END OF GRAND TRUNK RAILWAY BRIDGE.  
East side of Eddy Basin in distance. Water in left foreground has not attained full velocity; greatest velocity just beyond the bend of gorge to the left. Nearly vertical cliff above track in foreground to right of center.



PLATE X.—EDDY BASIN (IN FOREGROUND) AND THE WHIRLPOOL (BEYOND), LOOKING NORTH.  
Sharp rapids over upper Whirlpool reef in center. Eddy Basin is part of deep portion of Lower Great gorge.



PLATE XII.—DEEP POOL SECTION OF LOWER GREAT GORGE, LOOKING NORTHEAST.  
Deep pool in foreground; Foster Flats and head of Foster Rapids to right of center.



PLATE VII.—LOWER END OF UPPER GREAT GORGE IN FOREGROUND AND HEAD OF NARROW WHIRLPOOL RAPIDS GORGE IN MIDDLE DISTANCE, LOOKING NORTH UNDER RAILROAD BRIDGES.  
Note contrast in width of gorge and behavior of water in the two sections.



PLATE IX.—EDDY BASIN IN FOREGROUND AND LOWER END OF WHIRLPOOL RAPIDS GORGE IN CENTER, LOOKING SOUTHEAST, UPSTREAM.  
Swiftest water about at center of view. Main current crosses east side of Eddy Basin, in left foreground. Lockport dolomite caps cliff; ledge of hard limestone of Clinton formation in middle of bluff.



PLATE XI.—THE WHIRLPOOL AND DEEP POOL SECTION OF LOWER GREAT GORGE LOOKING NORTHEAST.  
Strong current crossing Whirlpool from right to left in foreground; rapids on lower Whirlpool reef in center, with deep pool of Lower Great gorge beyond. Foster Flats and head of Foster Rapids in distance.



PLATE XIII.—SHALLOW SECTION OF LOWER GREAT GORGE, LOOKING SOUTHWEST (UPSTREAM) FROM NIAGARA UNIVERSITY.  
Foster Flats and lower part of Foster Rapids in distance.





PLATE XIV.—OLD NARROW GORGE, LOOKING NORTH FROM POINT NEAR NIAGARA UNIVERSITY. Lower end of Lower Great gorge in left foreground. Old Narrow gorge begins where tracks in foreground near water bend to right. Lewiston and lower river in distance. Talus on west side for 20 to 25 feet above water swept bare of trees by ice jam of February, 1909.

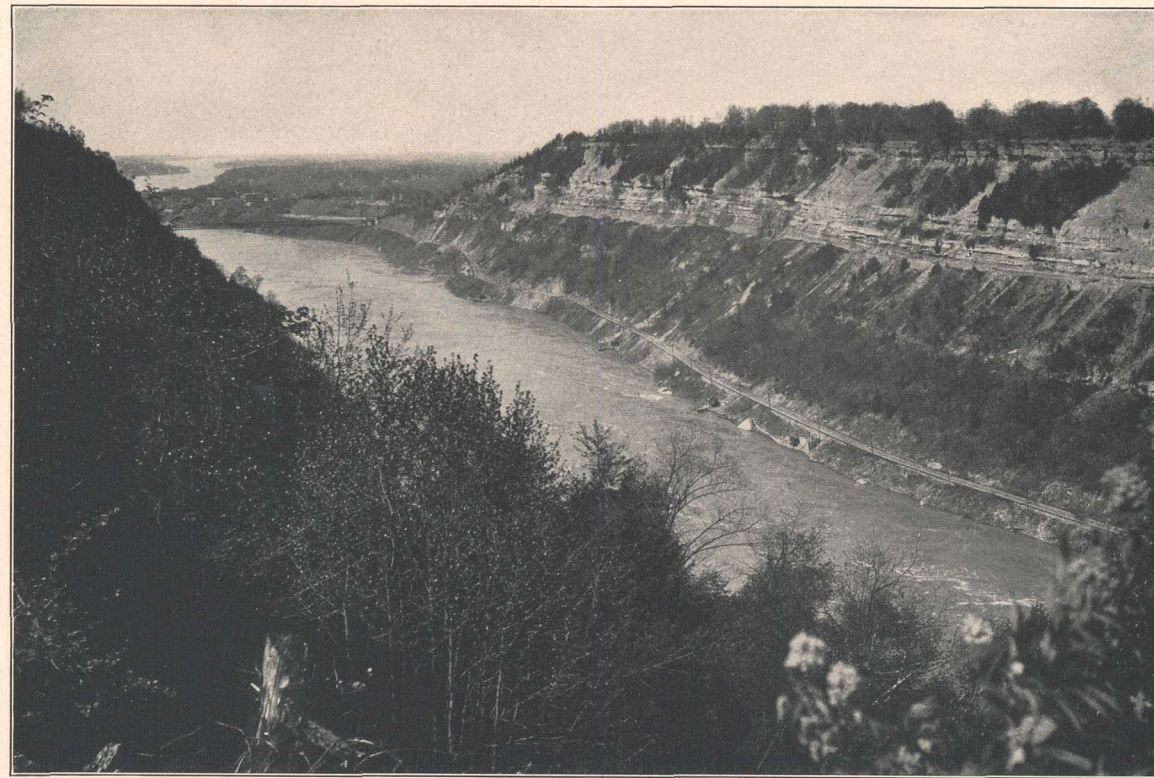


PLATE XV.—OLD NARROW GORGE AND LEWISTON BRANCH GORGE TO THE MOUTH OF GORGE, LOOKING NORTH FROM POINT ABOUT 300 YARDS SOUTH OF SMEATON RAVINE.

Lewiston and lower part of river in distance. The Rockport dolomite at the top of the cliff noticeably thins toward the mouth of the gorge. The limestone of the Clinton formation forms ledges in upper part of bluff and the Whirlpool sandstone member at base of the Albion makes ledge high up on slope beneath.



PLATE XVI.—ROCK SECTION EXPOSED IN EAST BLUFF OF THE NORTHERN PART OF NIAGARA GORGE ABOVE NEW YORK CENTRAL RAILROAD TRACK.

a, Albion sandstone; b, Sodus shale member of the Clinton; c, Wolcott limestone member; d, Irondequoit limestone member; e, Rochester shale member of the Clinton; f, Lockport dolomite.

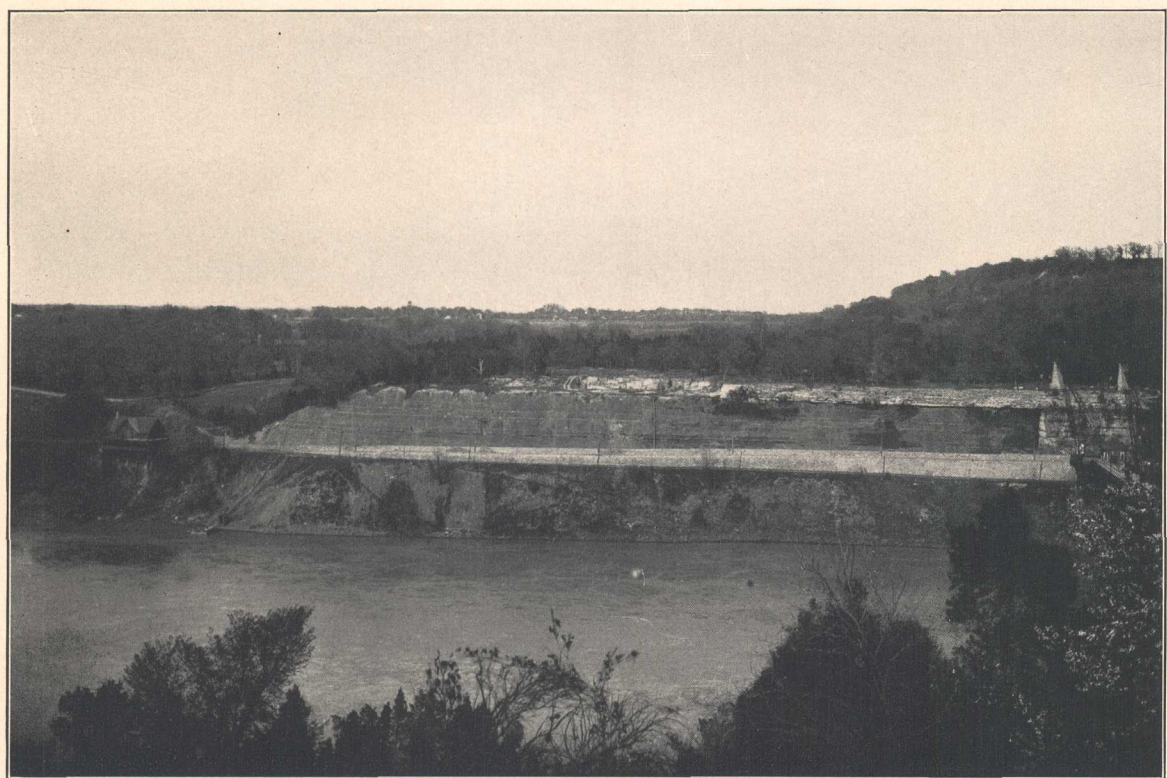


PLATE XVII.—TERRACE CAPPED BY WHIRLPOOL SANDSTONE MEMBER OF ALBION SANDSTONE, WITH NIAGARA ESCARPMENT AT RIGHT; LOOKING EAST FROM ROAD ABOVE QUEENSTON.

Low till bluff of Cataract basin in distance over outer part of terrace.

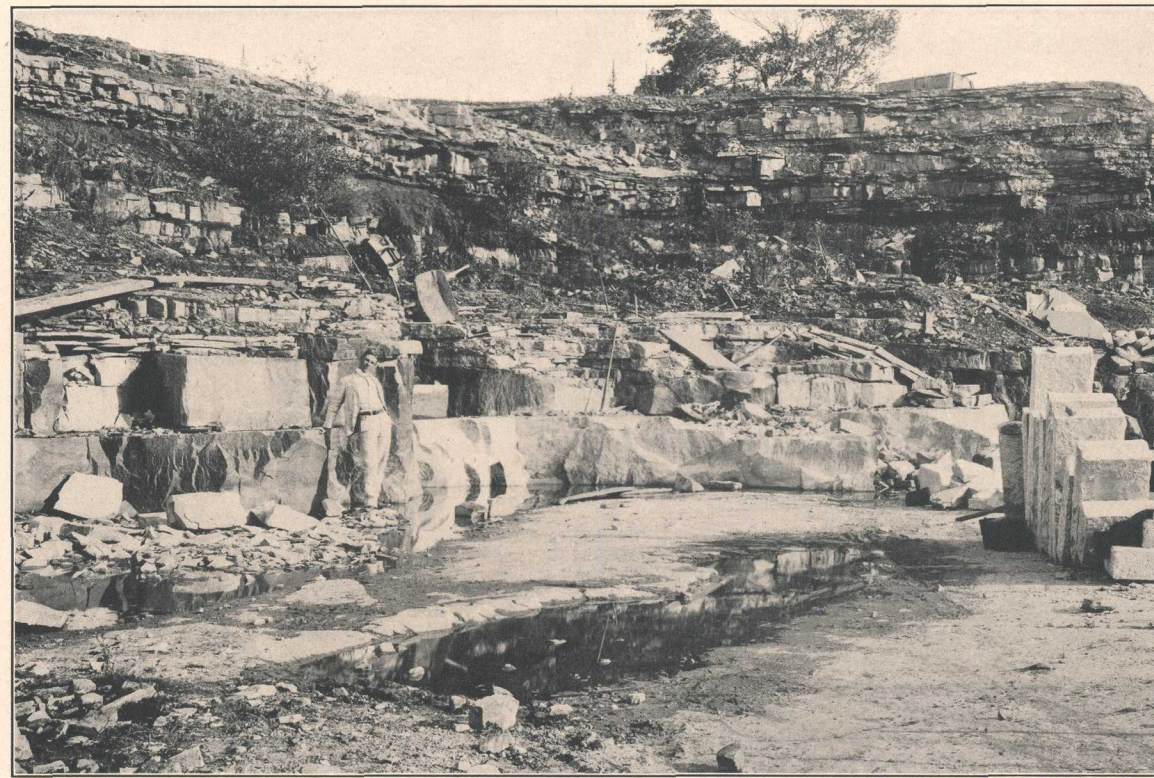


PLATE XVIII.—ALBION SANDSTONE IN QUARRY AT LOCKPORT, N. Y.



PLATE XIX.—ANTICLINE IN QUEENSTON SHALE ON SOUTH SHORE OF LAKE ONTARIO NEAR EIGHTEEN-MILE POINT.

The overturned arch resulting from the pressure of the glacial ice incloses glacial drift in the synclinal infold at the right.



PLATE XX.—LOCAL IRREGULARITY IN ALBION SANDSTONE IN NIAGARA GORGE.

The lenticular sandstone mass rests unconformably on the thinner beds beneath, which suggests channeling and possible marine scour.



PLATE XXI.—SEDIMENTARY TROUGH STRUCTURE IN ALBION SANDSTONE ALONG THE NEW YORK CENTRAL RAILROAD IN NIAGARA GORGE SOUTH OF LEWISTON.



PLATE XXII.—CREST BETWEEN TWO SEDIMENTARY TROUGH STRUCTURES IN ALBION SANDSTONE AT LEWISTON, N. Y.



PLATE XXIII.—REEF STRUCTURE AT TOP OF IRONDEQUOIT LIMESTONE MEMBER OF CLINTON FORMATION PROJECTING INTO ROCHESTER SHALE MEMBER IN NIAGARA GORGE.



PLATE XXIV.—SERIES OF CURVED PLATES IN LOCKPORT LIMESTONE.

In old quarry 1½ miles east of Niagara Falls, N. Y.



PLATE XXV.—DIMPLED SURFACE AND RIPPLE MARKS ON UPPER BEDS OF LOCKPORT DOLOMITE AT PENDLETON CENTER.